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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

TANG, KENNETH

ART UNIT PAPER NUMBER

2195

DATE MAILED: 01/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/844,470

Applicant(s)

SACHEDINA ET AL.

Examiner

Kenneth Tang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 October 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This action is in response to the Response on 10/28/05. Applicant's arguments have been fully considered but are not moot in view of the new grounds of rejections.
2. Claims 1-24 are presented for examination.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. **Claims 1-3, 6-11, 14-19, and 22-24 are rejected under 35 U.S.C. 102(b) as being anticipated by Iwasaki et al. (hereinafter Iwasaki) (US 5,274,809).**

4. As to claim 1, Iwasaki teaches the invention substantially as claimed including a computer system comprising:

tasks potentially contending for a latch (lock contentions among tasks) (*col. 3, line 29-30*), each task comprising:

a probability determining component to dynamically estimate the probability that the task will successfully acquire the latch (1 minus the lock fail rate probability β equals the success rate, etc.) (*col. 3, lines 1-15, col. 16, lines 26-36*); and

a suspending component (wait/post mechanism or suspend/resume mechanism or sleep/wakeup mechanism, etc.) to place the task in a suspended state for a defined sleep time

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(suspended at t_3 , etc.) where the estimated probability is below a predetermined threshold value (threshold is the point when the task is considered lock-failing from the lock fail rate probability β) (*col. 2, lines 15-27, col. 3, lines 1-15, col. 5, lines 45-60, col. 16, lines 26-36*).

5. As to claim 2, Iwasaki teaches in which the suspending component increments the defined sleep time by a heuristically determined constant factor for successive entries of the task into the suspended state (retry field is incremented by one, etc.) (*col. 14, lines 31-40*).

6. As to claim 3, Iwasaki teaches in which the sleep time is capped at a predetermined maximum value (maximum number of retries, etc.) (*col. 14, lines 31-54*).

7. As to claim 6, Iwasaki teaches in which the suspending component bases the defined sleep time on a predicted number of instructions executed under the latch as calculated by a sample workload measurement (based on the lock fail rate β , which is the probability of failure in lock attempts) (*col. 16, lines 26-36, etc.*).

8. As to claim 7, it is rejected for the same reasons as stated in the rejection of claim 3.

9. As to claim 8, Iwasaki teaches the probability determining component estimates the probability that the task will successfully acquire the latch by taking the inverse of the number of tasks contending for the latch (the ratio of the lock procedure to the whole procedure) (*col. 6, lines 1-11*).

10. As to claim 9, Iwasaki teaches a method for the management of contention for a latch by a task in a multitask computer system, the method comprising:

a. the task dynamically estimating the probability that the task will successfully acquire the latch (1 minus the lock fail rate probability β equals the success rate, etc.) (*col. 3, lines 1-15, col. 16, lines 26-36*);

b. the task placing itself in a suspended state for a defined sleep time (suspended at t_3 , etc.) where the estimated probability is below predetermined threshold value (threshold is the point when the task is considered lock-failing from the lock fail rate probability β) (*col. 2, lines 15-27, col. 3, lines 1-15, col. 5, lines 45-60, col. 16, lines 26-36*); and

c. the task repeating the above a and b until the dynamically estimated probability of the task acquiring the latch is at or above the predetermined threshold value, following which the task will contend for the latch (dynamic task execution for lock management such as wait/post mechanism, suspend/resume mechanism, sleep/wakeup mechanism, etc) (*col. 2, lines 15-27, col. 3, lines 1-15, see col. 18-19, claim 1*).

11. As to claims 10-11 and 14-17, they are rejected for the same reasons as stated in the rejection of claims 2-3 and 6-9.

12. As to claims 18-19 and 22-24, they are rejected for the same reasons as stated in the rejection of claims 2-3 and 6-8.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claims 4-5, 12-13, and 20-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iwasaki et al. (hereinafter Iwasaki) (US 5,274,809) in view of Murphy et al. (hereinafter Murphy) (US 5,077,677).

14. As to claim 4, Isawaki teaches suspending for a defined sleep time (suspended at t_3 , etc.) where the estimated probability is below predetermined threshold value (threshold is the point when the task is considered lock-failing from the lock fail rate probability and when the task will successfully acquire the latch (1 minus the lock fail rate probability β equals the success rate, etc.) (*col. 2, lines 15-27, col. 3, lines 1-15, col. 5, lines 45-60, col. 16, lines 26-36*). Isawaki is silent on adjusting the according to changes in the probability. However, Murphy teaches an adaptive controller and a latch, wherein the idle state is affected by a probability calculation (*col. 17, lines 29-33, etc.*). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Isawaki with Murphy because it would provide an intelligent adaptive controller (*col. 5, lines 55-62, etc.*).

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15. As to claim 5, Iwasaki teaches in which the sleep time is capped at a predetermined maximum value (maximum number of retries, etc.) (*col. 14, lines 31-54*).

16. As to claim 12-13 and 20-21, they are rejected for the same reasons as stated in the rejections of claims 4-5 above.

Response to Arguments

17. Applicant's arguments have been fully considered but are now moot in view of the new grounds of rejections.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kenneth Tang whose telephone number is (571) 272-3772. The examiner can normally be reached on 8:30AM - 6:00PM, Every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on (571) 272-3756. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Kt
12/29/05


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